

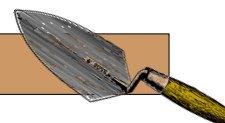


Appleby Archaeology Newsletter



Volume 17 Issue 1

Spring 2014



Group News

For the benefit of Members who didn't manage to make the January AGM, it may be useful to provide a summary of Martin Railton's Research report. He concentrated on the fieldwalking we carried out in early 2013 and the excavation on Brackenber in the summer.

Three fields had been walked but only 3 flint artefacts were found. The area around the Hilton Beck had been most productive. Martin said that he would be searching for more fields this spring and would keep the membership informed. He asked for volunteers to contact him regarding the washing of finds.

After a false start, the excavation of the "Bronze Age barrow" at Brackenber had finally taken place in October. 2013 Because of the late start, the weather had been poor but a lot had been achieved in just a week. More than half of a stone cairn had been excavated under the topsoil and it was believed that this overlay one or more prehistoric burials. Unfortunately there had been no time to excavate further. A total of 16 flints had been found through sieving of the spoil, including some dating to the Mesolithic period, as well as a tiny fragment of Iron Age pottery. A full report on the excavation is available on the website at applebyarchaeology.org.uk/researchindex/cp10415brackenbermoorreport.pdf

Altogether Archaeology have said that they may be prepared to fund another excavation in the spring of 2014 to investigate the lower levels of the mound.

Elsewhere in this issue you'll find details of the first of this year's "Summer Events". I've enclosed a booking form for the first of these - a visit to Appleby Castle. Later in the year we hope to invite you on a trip to the Maritime Museum in Hartlepool. This should provide an enjoyable prelude to next year's winter programme which will have a "watery" theme. More details to follow in the next newsletter.

Enjoy your archaeology!

Best wishes, Martin Joyce

The Museum of Tautavel

Summer isn't too far away now and if any of you are planning a trip to Southern France, here is a suggestion for a great place to visit – the Museum of Tautavel, European Centre of Prehistory.

I was fortunate enough to visit Tautavel in October last year and was hugely impressed by the exhibits and the way in which the centre presents the story of early man in Europe. The reconstruction of the Caune de l'Arago – the cave where Tautavel man lived 450,000 years ago – is spectacular; the actual cave is a short distance away and visits are restricted in order to preserve it. Alongside the other displays and dioramas the story of these early Europeans is vividly told.



Homme de Tautavel - 450,000 years old

The remains of about 100 individuals have been found – including the skull of a young adult which is almost complete. In addition there are teeth in abundance, complete mandibles and all parts of skeletons. One fibula is particu-

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larly well preserved and the length of it indicates that adult males may well have been over 1m 60cm tall.

This year, 2014, marks fifty years since excavations began in the cave and on the plain of Tautavel – during my visit there was some mention of a special display or anniversary events at the museum.

Highly recommended!

Carol Dougherty

Members' Evening 2014

Our AGM on 14th January was followed by excellent presentations from two of the group's members. The first was given by Ron Lyon, a former metallurgist and foundry worker, and an active member of the Cumbrian Industrial History Society. He gave us a fascinating talk on "the iron industry in Cumbria".

The second speaker was Harry Hawkins whose long-term interest in archaeology began with evening classes on the first site to develop the experimental restoration approach - West Stow Anglo-Saxon village in Suffolk. It was an intriguing account of the development of what has become a standard technique of using practical reconstruction to refine the understanding of successive generations of researchers.

From Bloomery to Blast: the iron industry in Cumbria

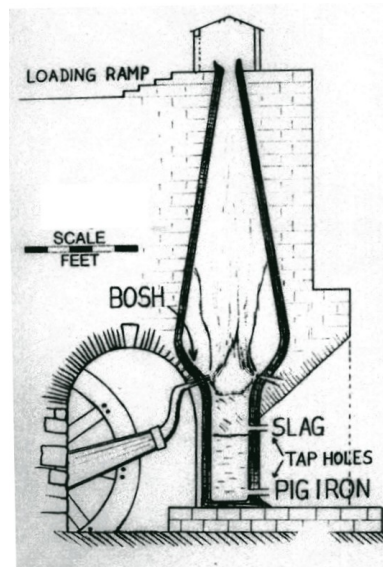
Haematite or iron oxide ore was first used by Neolithic people as a cosmetic pigment due to its striking colour, but there is little evidence of iron production on an industrial scale until the mediaeval period,

In the earliest phases of the industry charcoal was used to heat the iron ore to 1100°C in a **bloomery** - a simple open hearth. The iron produced in this way had many impurities so it had to be forged to remove the slag. Around 100lbs of ore would be required to produce just 30lbs of iron. Output from a bloomery would be some 5 tons per year.

When the simple bloomery was enhanced by the introduction of water-powered bellows and hammers, however, 100lb of ore would produce as much as 80 lbs of iron. This arrangement was known as a **bloom-smithy** and production now rose to 50 tons per year

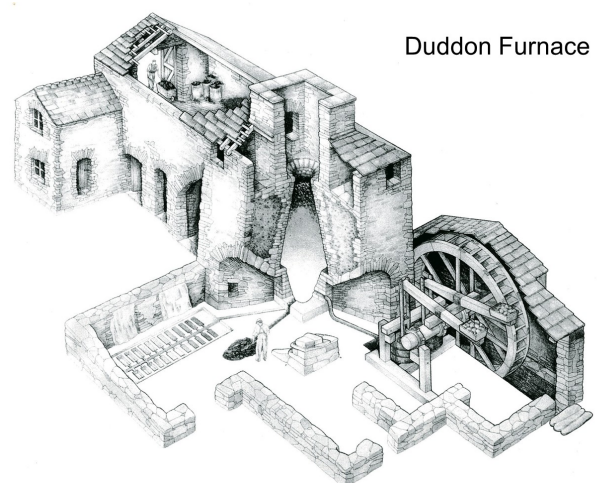
A bloom-smithy required massive amounts of charcoal - it is estimated that an acre of woodland was required in order to produce 1.5 tons of iron. Accordingly bloom-smithy furnaces were moved to the woodlands. Eventually the heavy use of timber conflicted with the national need for wooden warships, and in 1561 a decree of Elizabeth I abolished the bloom smithies to protect the trees.

The **blast furnace** replaced the simple hearth of a bloomery with an open "pot" enabling a mixture of ore and fuel to be fed in at the top while a water-powered air blast was blown in at the bottom. Water power was also



harnessed to drive drop hammers for forging. Larger masses of ore could be heated, and with the slag now floating on top, the molten metal was tapped out from below to form pig iron. **Fineries** then re-melted the pig iron to form cast bars, and **Chaferies** forged the cast bars into wrought iron. Using this technology, annual production from a blast furnace could rise to as much as 1500 tons

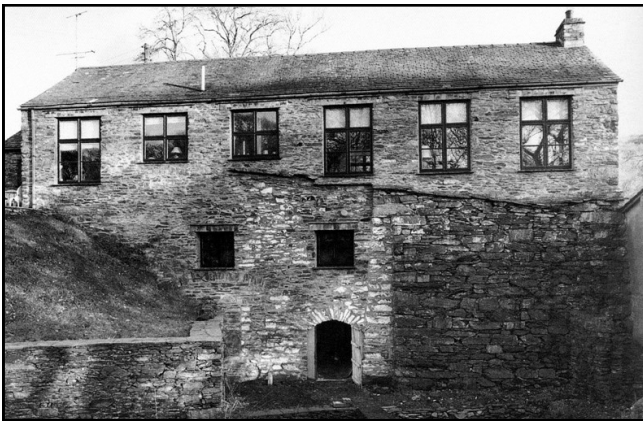
Furnaces would run for two months until the charcoal ran out, then they would move and start again. Between 1711 and 1749 eight charcoal-fed furnaces were built at Backbarrow, six of which were owned by only three companies. But by 1800 only four were left. By 1900 there was just one. There was still a huge demand but Abraham Darby's invention of coke to smelt the iron had meant that much larger quantities of iron could be produced near the coalfields. It was not as pure as the product from charcoal, but peat, brown coal and anthracite could be mixed and used to produce higher quality coke.



Duddon Furnace

By the 1800s there were 20 coke-fired blast furnaces in Cumbria, and 32 puddling furnaces - another refinement which used an overdraft of air to convert a pool of molten pig iron to wrought iron without hammering, - but by

1877 the decline had started. As the iron-smelting furnaces of the Lake District went out of business their water power was re-directed to make bobbins for the cotton industry, and then, when the cotton industry faded, to drive saw-mills. Many of the old works and associated buildings remain today, and are well worth visiting. Most have been taken over and converted to new uses, but they are an impressive reminder of a formerly great Lake District industry.



Nibthwaite furnace today - iron furnace, then bobbin mill then sawmill and finally - family home

West Stow Anglo-Saxon Village, Suffolk

In the years after 400AD, successive waves of Angles, Saxons, Frisians and Jutes were driven out of their homelands on the other side of the North Sea by population pressure and began to raid Britain's east coast. Later they began to winter there in small numbers and finally to make permanent settlements both on the coast and also inland. Much of the Suffolk interior was so-called "breckland" - sandy gorse-covered heathland - but the valleys and estuaries to the south offered better, richer and more cultivable land, so it was mostly here that the newcomers chose to live.

Stow village was the first whole Saxon village complex to be fully excavated. The excavation ran from 1965 to 1972 and used the same techniques, albeit less sophisticated, as would be employed today.

The main features of the village were what came to be known as "SFBs", or sunken feature buildings. A shallow pit appeared to have been covered with a roof supported by two, four or sometimes even six vertical tree-trunks.

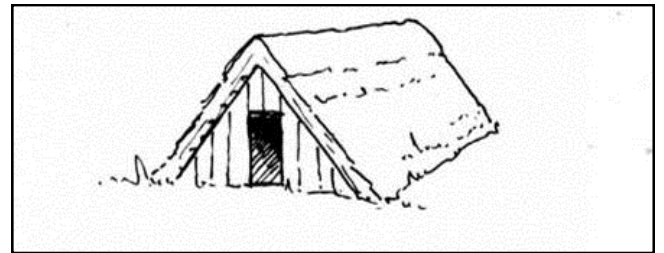
During the excavation it became clear that there had been settlement on the same site since the Ice Age. Flint flakes and a Neolithic barrow provided evidence of prehistoric occupation. This was followed by Iron Age settlement with stock enclosures and circular huts. A Roman pottery industry followed and appears to have operated for some

70 years before its abandonment. The early Saxon village occupied the site between approximately 450 and 650 AD.

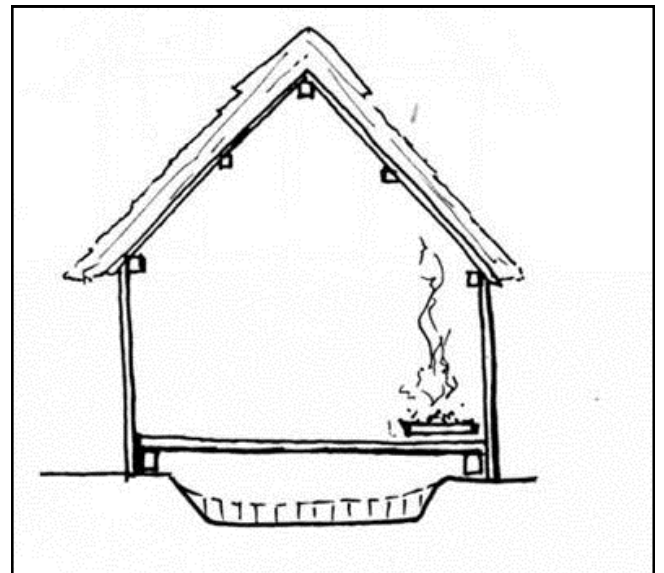
After its final abandonment, the site seems to have been covered over by a sandstorm and then forgotten until it was rediscovered by a workman in the 19th century.

Various vicars excavated bits of it in a rather amateurish way, but then in the 1960s Stanley West decided to excavate the site and to attempt the reconstruction of some of its buildings in what came to be recognised as the start of "experimental archaeology".

With only posthole evidence as a starting point, the construction methods for the various types of building had to be worked out by trial and error. It was originally thought that the SFBs lacked walls, but after experimentation and reconsideration it was decided that they probably had plank walls covered by wattle and daub. It is thought that hearths were constructed on a mud base laid on a plank floor covering the central pit.



The old idea of how Anglo-Saxon huts were built over pits



The new idea with a clay hearth on a wooden floor suspended over the pit

Gradually the whole village was reconstructed and its functioning parts established.

It now appears that Stow village is an example of a basic

model which was employed widely elsewhere in Anglo-Saxon settlements in rural England up to the time of Athelstan.



Reconstruction of sunken-feature building

It was particularly interesting to follow the evolution of archaeological techniques in parallel with the evolution of the interpretation of the house types discovered on this ground-breaking dig.

Stephen Walker

CUMBRIA INDUSTRIAL HISTORY SOCIETY



Spring Conference - Saturday 26th April 2014

The Shap Wells Hotel, Shap, Penrith

The military role of Cumbria in WW1 – Stuart Eastwood

Shells, ships and submarines : Barrow's contribution to the war effort – Bill Myers

Railways under pressure : Cumbria's railways and the Great War – Peter Robinson

Windermere and naval aviation, 1909-1918 – Ian Gee

A place at the conference costs £23.50 per person, which includes lunch. Non-members are welcome. Further details and an application form are available from the society's web site at www.cumbria-industries.org.uk, by phone on 01524 762312 or by e-mail at cihscon@btinternet.com

Winter Lectures

The Silverdale and Furness Viking hoards and other recent finds from Lancashire and Cumbria.

Tuesday 8th Apr

Dot Boughton (Lancs & Cumbria PAS)

Summer Events

**Visit to Appleby Castle
(see enclosed booking form).**

Tuesday 13th May at 6.30pm

Enquiries to Phyl Rouston on at 017683 53463 or phyl@rouston.plus.com

**Evening Walk to Prehistoric Monuments on
Askham Fell:**

Wednesday 11th Jun : Meet 7.00pm

Organiser : Martin Railton 07976530306

We will be visiting the Cockpit Stone Circle and Bronze Age funerary monuments with fine views over Ullswater. Dogs welcome under control.

Directions: From Askham Village take the road south to Helton. Keep right into Helton Village. Keep right in the village and take the fell road. Shortly after entering the open moorland there is a parking place on the right. Park on the roadside near the Copstone at NY 4960 2170

